

SSSSSSSSSSSSSS	000000000	RRRRRRRRRRRR	TTTTTTTTTTTTTT	3333333333	2222222222
SSSSSSSSSSSSSS	000000000	RRRRRRRRRRRR	TTTTTTTTTTTTTT	3333333333	2222222222
SSSSSSSSSSSSSS	000000000	RRRRRRRRRRRR	TTTTTTTTTTTTTT	3333333333	2222222222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSSSSSSSSS	000	RRRRRRRRRRRR	TTT	333	222
SSSSSSSSSS	000	RRRRRRRRRRRR	TTT	333	222
SSSSSSSSSS	000	RRRRRRRRRRRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSS	000	RRR	TTT	333	222
SSSSSSSSSSSSSS	000000000	RRR	TTT	3333333333	22222222222222
SSSSSSSSSSSSSS	000000000	RRR	TTT	3333333333	22222222222222
SSSSSSSSSSSSSS	000000000	RRR	TTT	3333333333	22222222222222

```
000000  PPPPPPPP  CCCCCCCC  000000  DDDDDDDD  EEEEEEEEE  SSSSSSSSS
000000  PPPPPPPP  CCCCCCCC  000000  DDDDDDDD  EEEEEEEEE  SSSSSSSSS
00      00  PP      PP  CC      00      00  DD      DD  EE      SS
00      00  PP      PP  CC      00      00  DD      DD  EE      SS
00      00  PP      PP  CC      00      00  DD      DD  EE      SS
00      00  PP      PP  CC      00      00  DD      DD  EE      SS
00      00  PPPPPPPP  CC      00      00  DD      DD  EEEEEEEE  SSSSSSS
00      00  PPPPPPPP  CC      00      00  DD      DD  EEEEEEEE  SSSSSSS
00      00  PP      CC      00      00  DD      DD  EE      SS
00      00  PP      CC      00      00  DD      DD  EE      SS
00      00  PP      CC      00      00  DD      DD  EE      SS
00      00  PP      CC      00      00  DD      DD  EE      SS
000000  PP      CCCCCCCC  000000  DDDDDDDD  EEEEEEEEE  SSSSSSSSS
000000  PP      CCCCCCCC  000000  DDDDDDDD  EEEEEEEEE  SSSSSSSSS
                                ....
                                ....
                                ....

RRRRRRRR  EEEEEEEEE  QQQQQQ
RRRRRRRR  EEEEEEEEE  QQQQQQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RRRRRRRR  EEEEEEEEE  QQ      QQ
RRRRRRRR  EEEEEEEEE  QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EE      QQ      QQ
RR      RR  EEEEEEEEE  QQQQ  QQ
RR      RR  EEEEEEEEE  QQQQ  QQ
```

! File: OPCODES.REQ IDENT = 'V04-000' ! File: OPCODES.REQ Edit: PDG1001

```
*****
*
*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
*  ALL RIGHTS RESERVED.
*
*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
*  ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
*  OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
*  TRANSFERRED.
*
*  THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
*  AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
*  CORPORATION.
*
*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
*
*****
```

++

FACILITY: VAX-11 SORT / MERGE

## ABSTRACT:

This module defines numeric values of opcodes and operand specifiers.

ENVIRONMENT: VAX/VMS user mode

AUTHOR: P. Gilbert, CREATION DATE: 07-Dec-1981

## MODIFIED BY:

```
V01-000 Original
V01-001 Change values of two-byte opcodes to conform with definitions
       in STARLET. PDG 4-Apr-1983
```

--



## MACRO OPCODES =

'HALT'	0.	00	.	.	.	.	.	.
'NOP'	0.	01	.	.	.	.	.	.
'REI'	0.	02	.	.	.	.	.	.
'BPT'	0.	03	.	.	.	.	.	.
'RET'	0.	04	.	.	.	.	.	.
'RSB'	0.	05	.	.	.	.	.	.
'LDPCTX'	0.	06	.	.	.	.	.	.
'SVPCTX'	0.	07	.	.	.	.	.	.
'CVTPS'	4.	08	rw	ab	rw	ab	.	.
'CVTSP'	4.	09	rw	ab	rw	ab	.	.
'INDEX'	6.	0A	rl	rl	rl	rl	rl	wl
'CRC'	4.	0B	ab	rl	rw	ab	.	.
'PROBER'	3.	0C	rb	rw	ab	.	.	.
'PROBEW'	3.	0D	rb	rw	ab	.	.	.
'INSQUE'	2.	0E	ab	ab	.	.	.	.
'REMQUE'	2.	0F	ab	wl	.	.	.	.
'BSBB'	1.	10	bb	.	.	.	.	.
'BRB'	1.	11	bb	.	.	.	.	.
'BNEQ'	1.	12	bb	.	.	.	.	.
'BEQL'	1.	13	bb	.	.	.	.	.
'BGTR'	1.	14	bb	.	.	.	.	.
'BLEQ'	1.	15	bb	.	.	.	.	.
'JSB'	1.	16	ab	.	.	.	.	.
'JMP'	1.	17	ab	.	.	.	.	.
'BGEQ'	1.	18	bb	.	.	.	.	.
'BLSS'	1.	19	bb	.	.	.	.	.
'BGTRU'	1.	1A	bb	.	.	.	.	.
'BLEQU'	1.	1B	bb	.	.	.	.	.
'BVC'	1.	1C	bb	.	.	.	.	.
'BVS'	1.	1D	bb	.	.	.	.	.
'BGEQU'	1.	1E	bb	.	.	.	.	.
'BLSSU'	1.	1F	bb	.	.	.	.	.
'ADDP4'	4.	20	rw	ab	rw	ab	.	.
'ADDP6'	6.	21	rw	ab	rw	ab	rw	ab
'SUBP4'	4.	22	rw	ab	rw	ab	.	.
'SUBP6'	6.	23	rw	ab	rw	ab	rw	ab
'CVTPT'	5.	24	rw	ab	ab	rw	ab	.
'MULP'	6.	25	rw	ab	rw	ab	rw	ab
'CVTTP'	5.	26	rw	ab	ab	rw	ab	.
'DIVP'	6.	27	rw	ab	rw	ab	rw	ab
'MOVC3'	3.	28	rw	ab	ab	.	.	.
'CMPC3'	3.	29	rw	ab	ab	.	.	.
'SCANC'	4.	2A	rw	ab	ab	rb	.	.
'SPANC'	4.	2B	rw	ab	ab	rb	.	.
'MOVC5'	5.	2C	rw	ab	rb	rw	ab	.
'CMPC5'	5.	2D	rw	ab	rb	rw	ab	.
'MOVTC'	6.	2E	rw	ab	rb	ab	rw	ab
'MOVTUC'	6.	2F	rw	ab	rb	ab	rw	ab
'BSBW'	1.	30	bw	.	.	.	.	.
'BRW'	1.	31	bw	.	.	.	.	.
'CVTWL'	2.	32	rw	wl	.	.	.	.
'CVTWB'	2.	33	rw	wb	.	.	.	.
'MOVPL'	2.	34	rw	ab	ab	.	.	.
'CMPP3'	2.	35	rw	ab	ab	.	.	.
'CVTPL'	2.	36	rw	ab	wl	.	.	.

CMPP4	4	37	rw,ab,rw,ab	.	.
EDITPC	4	38	rw,ab,ab,ab	.	.
MATCHC	4	39	rw,ab,rw,ab	.	.
LOCC	W	3A	rb,rw,ab	.	.
SKPC	W	3B	rb,rw,ab	.	.
MOVZWL	W	3C	rw,wl	.	.
ACBW	W	3D	rw,rw,mw,bw	.	.
MOVAV	W	3E	aw,wl	.	.
PUSHAW	W	3F	aw	.	.
ADDF2	W	40	rf,mt	.	.
ADDF3	W	41	rf,rf,wf	.	.
SUBF2	W	42	rf,mt	.	.
SUBF3	W	43	rf,rf,wf	.	.
MULF2	W	44	rf,mt	.	.
MULF3	W	45	rf,rf,wf	.	.
DIVF2	W	46	rf,mt	.	.
DIVF3	W	47	rf,rf,wf	.	.
CVTFB	W	48	rf,wb	.	.
CVTFW	W	49	rf,ww	.	.
CVTFL	W	4A	rf,wl	.	.
CVTRFL	W	4B	rf,wl	.	.
CVTBF	W	4C	rb,wf	.	.
CVTWF	W	4D	rw,wf	.	.
CVTLF	W	4E	rl,wf	.	.
ACBF	W	4F	rf,rf,mt,bw	.	.
MOVF	W	50	rf,wf	.	.
CMPF	W	51	rf,rf	.	.
MNEGF	W	52	rf,wf	.	.
TSTF	W	53	rf	.	.
EMODF	W	54	rf,rb,rf,wl,wf	.	.
POLYF	W	55	rf,rw,ab	.	.
CVTFD	W	56	rf,wd	.	.
X57	W	57		.	.
ADAW1	W	58	rw,mw	.	.
X59	W	59		.	.
X5A	W	5A		.	.
X5B	W	5B		.	.
INSQH1	W	5C	ab,aq	.	.
INSQT1	W	5D	ab,aq	.	.
REMQH1	W	5E	aq,wl	.	.
REMQT1	W	5F	aq,wl	.	.
ADDD2	W	60	rd,md	.	.
ADDD3	W	61	rd,rd,wd	.	.
SUBD2	W	62	rd,md	.	.
SUBD3	W	63	rd,rd,wd	.	.
MULD2	W	64	rd,md	.	.
MULD3	W	65	rd,rd,wd	.	.
DIVD2	W	66	rd,md	.	.
DIVD3	W	67	rd,rd,wd	.	.
CVTDB	W	68	rd,wb	.	.
CVTDW	W	69	rd,ww	.	.
CVTDL	W	6A	rd,wl	.	.
CVTRDL	W	6B	rd,wl	.	.
CVTBD	W	6C	rb,wd	.	.
CVTWD	W	6D	rw,wd	.	.
CVTLD	W	6E	rl,wd	.	.

'ACBD'	4	'6F'	rd,rd,md,bw,	.	.
'MOVD'	2	'70'	rd,wd,	.	.
'CMPD'	2	'71'	rd,rd,	.	.
'MNEGD'	2	'72'	rd,wd,	.	.
'TSTD'	1	'73'	rd,	.	.
'EMODD'	3	'74'	rd,rb,rd,wl,wd,	.	.
'POLYD'	3	'75'	rd,rw,ab,	.	.
'CVTDF'	3	'76'	rd,wt,	.	.
'X77'	0	'77'	.	.	.
'ASHL'	3	'78'	rb,rl,wl,	.	.
'ASHQ'	3	'79'	rb,rq,wq,	.	.
'EMUL'	4	'7A'	rl,rl,rl,wq,	.	.
'EDIV'	4	'7B'	rl,rq,wl,wl,	.	.
'CLRQ'	1	'7C'	wq,	.	.
'MOVQ'	2	'7D'	rq,wq,	.	.
'MOVAQ'	2	'7E'	aq,wl,	.	.
'PUSHAQ'	1	'7F'	aq,	.	.
'ADDB2'	2	'80'	rb,mb,	.	.
'ADDB3'	3	'81'	rb,rb,wb,	.	.
'SUBB2'	2	'82'	rb,mb,	.	.
'SUBB3'	3	'83'	rb,rb,wb,	.	.
'MULB2'	2	'84'	rb,mb,	.	.
'MULB3'	3	'85'	rb,rb,wb,	.	.
'DIVB2'	2	'86'	rb,mb,	.	.
'DIVB3'	3	'87'	rb,rb,wb,	.	.
'BISB2'	2	'88'	rb,mb,	.	.
'BISB3'	3	'89'	rb,rb,wb,	.	.
'BICB2'	2	'8A'	rb,mb,	.	.
'BICB3'	3	'8B'	rb,rb,wb,	.	.
'XORB2'	2	'8C'	rb,mb,	.	.
'XORB3'	3	'8D'	rb,rb,wb,	.	.
'MNEGB'	2	'8E'	rb,wb,	.	.
'CASEB'	2	'8F'	rb,rb,rb,	.	.
'MOVB'	2	'90'	rb,wb,	.	.
'CMPB'	2	'91'	rb,rb,	.	.
'MCOMB'	2	'92'	rb,wb,	.	.
'BITB'	1	'93'	rb,rb,	.	.
'CLRB'	1	'94'	wb,	.	.
'TSTB'	1	'95'	rb,	.	.
'INCB'	1	'96'	mb,	.	.
'DECB'	1	'97'	mb,	.	.
'CVTBL'	2	'98'	rb,wl,	.	.
'CVTBW'	2	'99'	rb,ww,	.	.
'MOVZBL'	2	'9A'	rb,wl,	.	.
'MOVZBW'	2	'9B'	rb,ww,	.	.
'ROTL'	3	'9C'	rb,rl,wl,	.	.
'ACBB'	4	'9D'	rb,rb,mb,bw,	.	.
'MOVAB'	2	'9E'	ab,wl,	.	.
'PUSHAB'	1	'9F'	ab,	.	.
'ADDW2'	2	'A0'	rw,mw,	.	.
'ADDW3'	3	'A1'	rw,rw,ww,	.	.
'SUBW2'	2	'A2'	rw,mw,	.	.
'SUBW3'	3	'A3'	rw,rw,ww,	.	.
'MULW2'	2	'A4'	rw,mw,	.	.
'MULW3'	3	'A5'	rw,rw,ww,	.	.
'DIVW2'	2	'A6'	rw,mw,	.	.



'DIVW3'	.	.	'A7'	rw,rw,ww,	.	.	.
'BISW2'	.	.	'A8'	rw,mw,	.	.	.
'BISW3'	.	.	'A9'	rw,rw,ww,	.	.	.
'BICW2'	.	.	'AA'	rw,mw,	.	.	.
'BICW3'	.	.	'AB'	rw,rw,ww,	.	.	.
'XORW2'	.	.	'AC'	rw,mw,	.	.	.
'XORW3'	.	.	'AD'	rw,rw,ww,	.	.	.
'MNEGW'	.	.	'AE'	rw,ww,	.	.	.
'CASEW'	.	.	'AF'	rw,rw,rw,	.	.	.
'MOVW'	.	.	'B0'	rw,ww,	.	.	.
'CMPW'	.	.	'B1'	rw,rw,	.	.	.
'MCOMW'	.	.	'B2'	rw,ww,	.	.	.
'BITW'	.	.	'B3'	rw,rw,	.	.	.
'CLRW'	.	.	'B4'	ww,	.	.	.
'TSTW'	.	.	'B5'	rw,	.	.	.
'INCW'	.	.	'B6'	mw,	.	.	.
'DECW'	.	.	'B7'	mw,	.	.	.
'BISPSW'	.	.	'B8'	rw,	.	.	.
'BICPSW'	.	.	'B9'	rw,	.	.	.
'POPR'	.	.	'BA'	rw,	.	.	.
'PUSHR'	.	.	'BB'	rw,	.	.	.
'CHMK'	.	.	'BC'	rw,	.	.	.
'CHME'	.	.	'BD'	rw,	.	.	.
'CHMS'	.	.	'BE'	rw,	.	.	.
'CHMU'	.	.	'BF'	rw,	.	.	.
'ADDL2'	.	.	'C0'	rl,ml,	.	.	.
'ADDL3'	.	.	'C1'	rl,rl,wl,	.	.	.
'SUBL2'	.	.	'C2'	rl,ml,	.	.	.
'SUBL3'	.	.	'C3'	rl,rl,wl,	.	.	.
'MULL2'	.	.	'C4'	rl,ml,	.	.	.
'MULL3'	.	.	'C5'	rl,rl,wl,	.	.	.
'DIVL2'	.	.	'C6'	rl,ml,	.	.	.
'DIVL3'	.	.	'C7'	rl,rl,wl,	.	.	.
'BISL2'	.	.	'C8'	rl,ml,	.	.	.
'BISL3'	.	.	'C9'	rl,rl,wl,	.	.	.
'BICL2'	.	.	'CA'	rl,ml,	.	.	.
'BICL3'	.	.	'CB'	rl,rl,wl,	.	.	.
'XORL2'	.	.	'CC'	rl,ml,	.	.	.
'XORL3'	.	.	'CD'	rl,rl,wl,	.	.	.
'MNEGL'	.	.	'CE'	rl,wl,	.	.	.
'CASEL'	.	.	'CF'	rl,rl,rl,	.	.	.
'MOVL'	.	.	'D0'	rl,wl,	.	.	.
'CMPL'	.	.	'D1'	rl,rl,	.	.	.
'MCOML'	.	.	'D2'	rl,wl,	.	.	.
'BITL'	.	.	'D3'	rl,rl,	.	.	.
'CLRL'	.	.	'D4'	wl,	.	.	.
'TSTL'	.	.	'D5'	rl,	.	.	.
'INCL'	.	.	'D6'	ml,	.	.	.
'DECL'	.	.	'D7'	ml,	.	.	.
'ADWC'	.	.	'D8'	rl,ml,	.	.	.
'SBWC'	.	.	'D9'	rl,ml,	.	.	.
'MTPR'	.	.	'DA'	rl,rl,	.	.	.
'MFPR'	.	.	'DB'	rl,wl,	.	.	.
'MOVPSL'	.	.	'DC'	wl,	.	.	.
'PUSHL'	.	.	'DD'	rl,	.	.	.
'MOVAL'	.	.	'DE'	al,wl,	.	.	.

'PUSHAL'	1	'DF'	al	.	.	.
'BBS'	.	'EO'	rl,vb,bb	.	.	.
'BBC'	.	'E1'	rl,vb,bb	.	.	.
'BBSS'	.	'E2'	rl,ub,bb	.	.	.
'BBCS'	.	'E3'	rl,ub,bb	.	.	.
'BBSC'	.	'E4'	rl,ub,bb	.	.	.
'BBCC'	.	'E5'	rl,ub,bb	.	.	.
'BBSSI'	.	'E6'	rl,vb,bb	.	.	.
'BBCCI'	.	'E7'	rl,vb,bb	.	.	.
'BLBS'	.	'E8'	rl,bb	.	.	.
'BLBC'	.	'E9'	rl,bb	.	.	.
'FFS'	.	'EA'	rl,rb,vb,wl	.	.	.
'FFC'	.	'EB'	rl,rb,vb,wl	.	.	.
'CMPV'	.	'EC'	rl,rb,vb,rl	.	.	.
'CMPZV'	.	'ED'	rl,rb,vb,rl	.	.	.
'EXTV'	.	'EE'	rl,rb,vb,wl	.	.	.
'EXTZV'	.	'EF'	rl,rb,vb,wl	.	.	.
'INSV'	.	'F0'	rl,rl,rb,ub	.	.	.
'ACBL'	.	'F1'	rl,rl,ml,bw	.	.	.
'AOBLSS'	.	'F2'	rl,ml,bb	.	.	.
'AOBLEQ'	.	'F3'	rl,ml,bb	.	.	.
'SOBGEQ'	.	'F4'	ml,bb	.	.	.
'SOBGTR'	.	'F5'	ml,bb	.	.	.
'CVTLB'	.	'F6'	rl,wb	.	.	.
'CVTLW'	.	'F7'	rl,ww	.	.	.
'ASHP'	.	'F8'	rb,rw,ab,rb,rw,ab	.	.	.
'CVTLP'	.	'F9'	rl,rw,ab	.	.	.
'CALLG'	.	'FA'	ab,ab	.	.	.
'CALLS'	.	'FB'	rl,ab	.	.	.
'XFC'	.	'FC'	.	.	.	.
'ESCD'	.	'FD'	.	.	.	.
'ESCE'	.	'FE'	.	.	.	.
'ESCF'	.	'FF'	.	.	.	z:



## MACRO FDCODES =

'CVTDH'	2	'32FD'	rd,wh	.	.	.	.
'CVTGF'	2	'33FD'	rg,wt	.	.	.	.
'ADDG2'	2	'40FD'	rg,mg	.	.	.	.
'ADDG3'	2	'41FD'	rg,rg,wg	.	.	.	.
'SUBG2'	2	'42FD'	rg,mg	.	.	.	.
'SUBG3'	2	'43FD'	rg,rg,wg	.	.	.	.
'MULG2'	2	'44FD'	rg,mg	.	.	.	.
'MULG3'	2	'45FD'	rg,rg,wg	.	.	.	.
'DIVG2'	2	'46FD'	rg,mg	.	.	.	.
'DIVG3'	2	'47FD'	rg,rg,wg	.	.	.	.
'CVTGB'	2	'48FD'	rg,wb	.	.	.	.
'CVTGW'	2	'49FD'	rg,wu	.	.	.	.
'CVTGL'	2	'4AFD'	rg,wl	.	.	.	.
'CVTRGL'	2	'4BFD'	rg,wl	.	.	.	.
'CVTBG'	2	'4CFD'	rb,wg	.	.	.	.
'CVTWG'	2	'4DFD'	rw,wg	.	.	.	.
'CVTLG'	2	'4EFD'	rl,wg	.	.	.	.
'ACBG'	4	'4FFD'	rg,rg,mg,bw	.	.	.	.
'MOVG'	2	'50FD'	rg,wg	.	.	.	.
'CMPG'	2	'51FD'	rg,rg	.	.	.	.
'MNEGG'	2	'52FD'	rg,wg	.	.	.	.
'TSTG'	1	'53FD'	rg	.	.	.	.
'EMODG'	3	'54FD'	rg,rw,rg,wl,wg	.	.	.	.
'POLYG'	2	'55FD'	rg,rw,ab	.	.	.	.
'CVTGH'	2	'56FD'	rg,wh	.	.	.	.
'ADDH2'	2	'60FD'	rh,mh	.	.	.	.
'ADDH3'	2	'61FD'	rh,rh,wh	.	.	.	.
'SUBH2'	2	'62FD'	rh,mh	.	.	.	.
'SUBH3'	2	'63FD'	rh,rh,wh	.	.	.	.
'MULH2'	2	'64FD'	rh,mh	.	.	.	.
'MULH3'	2	'65FD'	rh,rh,wh	.	.	.	.
'DIVH2'	2	'66FD'	rh,mh	.	.	.	.
'DIVH3'	2	'67FD'	rh,rh,wh	.	.	.	.
'CVTHB'	2	'68FD'	rh,rh	.	.	.	.
'CVTHW'	2	'69FD'	rh,rh	.	.	.	.
'CVTHL'	2	'6AFD'	rh,rh	.	.	.	.
'CVTRHL'	2	'6BFD'	rh,rh	.	.	.	.
'CVTBH'	2	'6CFD'	rb,wh	.	.	.	.
'CVTWH'	2	'6DFD'	rw,wh	.	.	.	.
'CVTLH'	2	'6EFD'	rl,wh	.	.	.	.
'ACBH'	4	'6FFD'	rh,rh,mh,bw	.	.	.	.
'MOVH'	2	'70FD'	rh,wh	.	.	.	.
'CMPH'	2	'71FD'	rh,rh	.	.	.	.
'MNEGH'	2	'72FD'	rh,wh	.	.	.	.
'TSTH'	1	'73FD'	rh	.	.	.	.
'EMODH'	3	'74FD'	rh,rw,rg,wl,wh	.	.	.	.
'POLYH'	2	'75FD'	rh,rw,ab	.	.	.	.
'CVTHG'	2	'76FD'	rh,wg	.	.	.	.
'CLRO'	1	'7CFD'	wo	.	.	.	.
'MOV0'	2	'7DFD'	ro,wo	.	.	.	.
'MOVAO'	2	'7EFD'	ao,wl	.	.	.	.
'PUSHA0'	1	'7FFD'	ao	.	.	.	.
'CVTFH'	2	'98FD'	rf,wh	.	.	.	.
'CVTFG'	2	'99FD'	rf,wg	.	.	.	.
'CVTHF'	2	'F6FD'	rh,wt	.	.	.	.

OPCODES.REQ;1

16-SEP-1984 16:57:55.96 Page 8

'CVTND' : 2, 'F7FD' : rh,wd, : : : :  
'BUGL' : 0, 'FDFD' : il, : : : :  
'BUGW' : 0, 'FEFD' : iw, : : : : %;

SOR

LIT

MAC

MAC

MAC

MAC

MAC

MAC

OPCODES.REQ;1

16-SEP-1984 16:57:55.96 Page 9

```
MACRO
  DEF_OPCODES[A,B,C,D,E,F,G,H,I] =
  -XNAME('OPC_',A) = 'XX (' %;
LITERAL
  DEF_OPCODES(OPCODES,FDCODES);
UNDECLARE
  %QUOTE OPCODES,
  %QUOTE FDCODES;
```

SOR

MAC

MAC

MAC



! Define literals for the registers

LITERAL  
R\_0 = 0. ! Register 0  
R\_1 = 1.  
R\_2 = 2.  
R\_3 = 3.  
R\_4 = 4.  
R\_5 = 5.  
R\_6 = 6.  
R\_7 = 7.  
R\_8 = 8.  
R\_9 = 9.  
R\_10 = 10.  
R\_11 = 11.  
R\_AP = 12. ! Argument Pointer  
R\_FP = 13. ! Frame pointer  
R\_SP = 14. ! Stack pointer  
R\_PC = 15. ! Program Counter

! Define literals for addressing modes

LITERAL  
M\_I = %X'40'. ! Indexed mode  
M\_R = %X'50'. ! Register  
M\_RD = %X'60'. ! Register deferred  
M\_AD = %X'70'. ! Autodecrement  
M\_AI = %X'80'. ! Autoincrement  
M\_AID = %X'90'. ! Autoincrement deferred  
M\_BD = %X'A0'. ! Byte displacement  
M\_BDD = %X'B0'. ! Byte displacement deferred  
M\_WD = %X'C0'. ! Word displacement  
M\_WDD = %X'D0'. ! Word displacement deferred  
M\_LD = %X'E0'. ! Longword displacement  
M\_LDD = %X'F0'. ! Longword displacement deferred



DIGITAL EQUIPMENT CORPORATION  
CONFIDENTIAL AND PROPRIETARY